

HIGH INTENSITY DISCHARGE LAMP BALLAST CIRCUIT

ABSTRACT OF THE DISCLOSURE

An integrated circuit controls a power converter that includes single stage buck-boost converter and a switching full bridge that may be used to drive an HID lamp. The single stage buck-boost converter reduces the complexity and parts count of the power converter, or electronic ballast, while permitting PFC and DC bus voltage regulation under control of the integrated circuit. The integrated circuit also provides all the drive signals to operate the switching full bridge circuit to maintain constant power on the HID lamp. A wait timer provides an interval of time between restart attempts for the HID lamp to permit the lamp to cool so that high hot restart voltages are avoided. The integrated circuit simplifies the design of power converters and electronic ballasts in particular, while contributing to reducing part count, complexity and cost in conjunction with the single stage buck-boost converter.